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The Border Carnation

By R. H. PRATT

THE border carnation, known botanically as *Dianthus Caryophyllus*, is a hardy herbaceous plant of a perennial character, belonging to the large natural family of the pink tribe. It is a native of Central and Southern Europe, whence it was introduced into England early in the Sixteenth Century.

The natural flowering season of the border carnation is during the months of June, July and August. The location, the character of the season, etc., naturally, however, exercise some influence on the time of bloom and one may cut flowers from the lateral or secondary growths as late as September.

Broadly speaking, the border carnation luxuriates in a moderately light, warm and sandy soil, with a dry atmosphere and plenty of sun, though in a hot, dry season a light shade during the middle of the day, or a position on a northern slope yet with an abundance of light is desirable during June, July and August.

While planting may be done from October to May, I strongly urge autumn planting on the Pacific Coast. Do not plant closer than 15 inches apart, allowing sufficient room for cultivation during the summer months. Always plant firmly, pressing the soil down well around the plants. The roots should be well covered but do not bury the plants more deeply than they were before being transplanted. Make certain that the bed in which your carnations are to be planted has good drainage. If your soil is light and sandy, the drainage problem is already solved. If the soil is heavy, then you should improve its texture by adding light soil and sand. Not forgetting to add lime in some form is absolutely necessary for their well-being. Old mortar rubble, spent lime, or a heavy dusting of slaked lime at the rate of one-half pound to the square yard would be about right. It is inadvisable to use fertilizer to any great extent on border carnations. A good heaping handful of ground bone meal at the time of planting will carry them through their blooming period for the first season.

The border carnation is not a thirsty plant and it is less harmful to give too little than too much water. The frequent use of the hoe during the summer is advisable. This keeps the soil loose, destroys weeds, prevents the soil from drying quickly and generally promotes healthy plants. One of the most important items in the care of border carnations is that of supporting the stems. As the flower stems rise, they must be supported in some way, so they won't sprawl on the ground. For this purpose, get thin bamboo stakes, four feet long, and cut them in half. These two-foot stakes are just about right. Tie your raffia or string to the stake and then around the flowering stems. Disbudding is necessary if you want large flowers for exhibition purposes up to three or three and one-half inches across. Pinch off the

side buds around the center crown bud, for it produces the best individual bloom. There are other side buds lower on the plant that will develop into good flowers if allowed to remain.

Since border carnations are husky perennials, by all means leave them in the same place for at least three years. It is no uncommon sight to see in the cottage gardens in England a well-grown, three-year-old plant with as many as 200 to 300 blooms on it. For neatness' sake, many gardeners cut back the perpetual carnations after flowering. Don't do this to border carnations as they'll refuse to flower the succeeding season.

Propagation

The best method to increase your stock of border carnations is by layering. The best time is July, since this results in well-rooted plants by October, which is the ideal time for planting. Judging the condition of the stem or wood for proper layering is not easy at first, but you get on to it after a while. The stem must not be too hard or too soft. If it cuts like a ripe apple, it will be all right. Select a joint halfway between the commencement of the grass or shoot at the base of the plant and its outermost tip. Then strip off the lower leaves to the joint selected and make a sloping cut with a sharp knife a little more than halfway through the shoot just below a joint, then passing upwards right through the joint. Bring your knife back through the same opening, thus leaving the stem still attached to the parent plant. Open the cut by bending the point of the shoot gently upwards and peg it down firmly into prepared soil composed of good light loam, leaf mold and sand in about equal parts. When all available layers on a plant have been put down, give the whole a thorough watering. The soil must be kept just moist, not wet, until roots have been formed and the layers have commenced to grow. The layers should be pegged down with a hairpin peg made out of stiff wire. When the layers are well rooted and growing again, the stem should be cut through between the layer and the plant, and the whole carefully lifted with a trowel, keeping the mass of roots as nearly as possible intact, and planted into their flowering quarters.

Border carnations are classified as follows:

The selfs, which are of one decided color such as pink, red, white, etc.

The fancies. These should be large and their chief excellence lies in their quality of petal and brilliancy of coloring. The most popular are those with yellow or apricot ground, striped, flaked or spotted with various colors.

The picotee is simply a carnation having a marginal band of color around the edges of all the petals. The ground color is white or yellow. When the border of color is narrow, the flower is termed a "light-edged" picotee; if broad, "heavy-edged," and anything in between the two, "intermediate."

While I have under cultivation some 65 varieties, the

following is a list of some that are quite outstanding:

Zebra	Crusader	Arabella Allen
Salmon Clove	The Guardsman	May Morning
Victoria Clove	Julia Christensen	Scarlet Pimpernel
Lavender Clove	Dainty	Roger Weldrake
Tally Ho	Mary Murray	

These, along with others not mentioned, were prize winners at the Chelsea and other shows in England. It is certainly gratifying to note that this wonderful carnation, with its many charms and merits, is now being recognized by all classes and its culture consequently surely and rapidly increasing, and it is assuming its place among the floral aristocracy, of which the rose has long been acknowledged the leader or queen. And if the rose is queen, the carnation may justly be entitled Princess Royal of flowers. Its beauty, fragrance and infinite variety of color and markings, as well as its hardiness and simplicity of culture, place it in the front rank of ornamental flowering plants.

Primulas in the Pacific Northwest

By IDA SCHUBIG

IT is an accepted fact that nowhere in the world except certain sections of England, which has long been recognized as the scientific botanical center of horticulture, is there a more ideal climate for growing the flora of the temperate zone than in the Pacific Northwest. In considering that this section is favorable for botanical research and horticulture because of adequate sunshine, ample moisture, small fluctuations of temperature and the natural conditions and beauty that abounds for creating a background for gardening, it is small wonder that the visionary gardener can foresee the North Pacific Slope as the gardening center of the world. Particularly in these turbulent times that inundate Europe, bringing chaos to the land and to the people, and knowing that the good things perish first as long as conflict fosters endeavor, favored as we are, we in the Pacific Northwest should grasp this situation and couple it with our ideal surroundings to sustain and advance horticulture of the temperate zone for us and for the world.

When contemplating any one group of plants from a vast array of worthy plant material for which this climate is favorable, it is impossible to find any more suitably fit than most of the vast numbers of species of the genus *Primula*. A huge amount of experimentation lies in this particular field and what utter fascination it holds in store! For use in garden design are species varying in size, color and texture from the tiny jewel, *P. minima*, growing no more than one-half inch high, to the giant *P. florindae*, growing three feet and upwards, depending on the culture, and from the airy and dainty *P. malacoides* to the stalwart *Candelabras*.

Primulas for a light woodland planting, for the shady, moist places and the sunny rock garden are a possibility for any gardener having the right situation for the species and types particularly desired.

Only the best species and hybrids that have good color, form and perfection of bloom should be given valuable garden space. This rule, coupled with adherence to the basic factors of moisture, drainage, soil, sun and shade and the duplication as much as possible of the native environment of each specie in our gardens, are the underlying principles of successful *Primula* culture and cannot be reiterated too often.

Woodland Primulas

For woodland plantings and for those who garden lightly are those best known primroses that bloom in the spring with an array of colorful brilliance that no flower in any season can surpass, namely, the *P. acaulis*, or the true primrose; *P. elatior*, the oxlip, and *P. officinalis*, the cowslip,

which are the parents of the myriads of *Polyanthus* hybrids.

The Vernaes group is admittedly the "easiest doer," but, even so, a great deal could be done to improve the culture generally so as to acquire that perfection of culture so greatly desired.

When discussing the subject of soil for *Primulas*, it is impossible to generalize as the requirements are so diversified for the various sections of the genus. In growing the species of the Vernaes section it is imperative that the soil be on the acid side. It should be of good heart and should neither be starved nor over-fertilized. Rather the soil elements must be well balanced and in particular a soil too high in nitrogen content is not desirable as it produces a lushness that tends towards weakness. In very rare instances is the soil composition naturally complete, so the missing requirements must be added, building the soil to the proper consistency. Drainage must be perfect, as stagnant moisture is one condition that no specie of *Primula* will tolerate.

There are many other *Primulas* known as light woodlanders that will prove hardy in the Northwest climate. One group is the *Denticulatas* that have never diminished in popularity. The leaves are toothed and more narrow than the Vernaes types, and the flower heads are borne aloft on a rigid stem forming a regular ball. These Asiatic *Primulas* are sometimes called coarse, but when intermingled with strong growing broadleaf evergreens in a natural planting, the effect is striking. The shades range from the pure white, *P. denticulata alba*, into blues, through to rich ruby purple.

The *Cortusoides* section is a little more miffy than those already mentioned and, although they are excellent plants for garden use, they will require more attention and thought. Nearly all the species are magenta or verging on it and those having a dislike for that color should not include them in the garden. The foliage of this group is the loveliest of any section: large, slightly lobed, hairy and crinkled. A few species of proven merit are *P. lichiangensis*, *P. jesoana*, *P. Veitchii* and *P. geraniifolia*.

Alpine Primulas

There is another broad classification of *Primulas* called Alpines, which, however lovely, are not a group to be undertaken by a casual or inexperienced gardener unless he is willing to assume heavy concentrated study. The conditions of these *Primulas* are exacting but are extremely delightful for the enthusiastic *Primula* specialist, the rock gardener, or the gardener who abounds in patience and feeling for this type of gardening. They are excellent plants for the small garden in that they show very well in a limited area and they do not require a lot of space. Alpine *Primulas* should certainly be more extensively grown than they are by the many fine gardeners in the Northwest.

A good compost for Alpines is composed of loam, crushed gravel, humus, sand and peat, the last to be used for plants requiring an acid soil.

The following is a brief generalization of a few Alpine species:

P. frondosa, *Farinosa* section. Leaves mealy on under-side, general growth, dwarf. It has an umbel of rosy flowers on a stout stem blooming in May.

P. hirsuta, *Erythrodosum* section. A real gem for the rock garden. It blooms in April with flowers borne on short scapes a little above the compact rosette of small leaves of many colors.

P. marginata, *Brevibracteata* section. This is one of the finest European *Primulas*. The best types have the toothed leaves edged with a golden farina and the blossoms have a clear eye.

The *Auricula* and its offspring is one specie under the

Alpine classification that, even though they are found in their native haunts in rock crevices and pockets, they will do equally well in deep loam in ordinary garden conditions, and their requirements need not be pampered and may be successfully grown by anyone.

(To be continued)

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Flowering Trees and Shrubs for Summer and Fall

By JOHN H. HANLEY

THE problem of providing color in shrub plantings and tree groups during the summer and fall is an important one for many gardeners. This continues list begun last month.

Indigofera amblyantha

Pink pea-like flowers produced in profuse short clusters from midsummer to fall make this Indigo a desirable addition to the summer planting. It will attain a height of six feet and should be given a warm location in the garden.

Indigofera Kirilowii

The flowers of this Korean Indigo are a darker pink than those of the preceding species and are borne in longer clusters. The fact that it is also a smaller shrub—four feet—makes it somewhat superior for planting in small home grounds.

Lespedeza bicolor

It is surprising to those who are familiar with the bush clovers to find that they are used so infrequently in landscape work. The flowers, bright purple in color, ordinarily appear in September and October and add a great deal of interest to the shrub background at that season. During the growing season the leaves themselves provide a very effective background for tall annuals and perennials. The ultimate height is ten feet.

Lespedeza formosa

Many gardeners prefer this one to the preceding species. *L. formosa* is not quite as large—six feet—and the flowers are more striking and brilliant—a bright rose. The two kinds can be used together very nicely if space permits.

Sophora japonica Japanese Pagoda Tree

This is one of the most outstanding of the rare flowering trees that could be used to good advantage in the Northwest. It grows to a height of forty to sixty feet and covers itself with foot-long panicles of yellowish-white flowers. The blooming period is exceptionally long, extending from July to September.

Sophora viciifolia

Although closely related to the preceding species, *S. viciifolia* gives an entirely different effect. It is a rounded shrub, regular in form but somewhat loose, that adds much to the midsummer garden. The flowers may vary from purple to pinkish white, but the most ornamental strains are the bright pinks. The ultimate height is eight feet.

Sorbaria arborea False Spiraea

The False Spiraeas resemble the so-called Ocean Spray or Sea Foam (*Holodiscus*) which flowers so abundantly along the roadsides in Northwestern United States. These general appearances, therefore, suggest a naturalistic usage, although a small clump, properly placed in a garden or on the small home grounds, would add to the general beauty during July and August. The creamy-white panicles of flowers are much larger than those of the sea foam and are held erect. The shrub has a loose, open habit of growth and can attain a height of twenty feet. A smaller form, *S. Aitchisonii* (eight feet), would probably be more suitable for the average garden and *S. sorbifolia* (five feet) would be even better. The flowers of the last-named appear earliest (June and July).

Stewartia pentagyna

The stewartias have a rather local distribution although they are found in widely separated parts of the world. One group is located in Southeastern Asia, another in Southeastern United States. *S. pentagyna*, a native species, is one of the best for ornamental purposes. The variety *grandiflora* is particularly good. The flowers, large and white, appear during July and August and the leaves take on bright colors in the fall. *S. pentagyna* may grow to fifteen feet in height.

Vitex Agnus-castus—Chaste-tree

Here is another member of the Verbenaceae family which can be used to good advantage for summer effects. It is a rather large shrub, attaining an ultimate height of ten feet. This suggests that it might be out of place in the smaller home grounds but the fact that it can be kept down by severe pruning each year offsets its natural bigness and makes possible a wider usage. The flowers range from lilac to pale violet in color and are borne on long spikes. The blooming period extends from July to September.

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The Culture of Flowers Among the Ancient Romans

Notes Translated From the Latin by

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(Continued from July Issue)

BEFORE the rule of Domitian, the Romans had imported roses from Egypt in the winter, but during his reign the florists of Latium were able to supply the Roman market. Carthage had a very good export business with the Romans in forced roses. Not only was Latium important as a large producer of flowers for the market, but Campania was also. The rose gardens of Paestum were especially celebrated.

There was a great demand for plants with which the gardens of Italy were planted. Everyone had gardens. The emperor had them in and near Rome and at his homes in the provinces. The noblemen vied with each other in the beauty and variety of their gardens. Extensive pleasure grounds for public use were planted by the government in Rome and other large cities of the empire. There were around the temples gardens which were consecrated to the gods. Each family planted flowers around the tombs of its ancestors and many flowers were planted on the roofs of city homes. Even the poor families in the cities had a few growing on their window-sills.

And what a market there was for cut flowers! From the East the Romans borrowed the custom of wearing wreaths, garlands, and crowns, for which the rose was quite the favorite flower, but other varicolored kinds were also used sometimes.

Roses and rose petals were strewn upon the tables and the floor at banquets. Flowers of every kind were thrown before processions as they advanced. Attar of roses was manufactured on a large scale for the perfume-loving Romans. The crocus was grown in great quantities for the yellow dye found in its stamens. The verbenas, often carried in the hands by ambassadors as a sign of peace in the early days of Rome, was used on the altars when sacrifices were made.

There was one day in the year, "dies violæ", when violets were placed upon every tomb and were used in the worship of the household gods.

During May and June when Italy was redolent with the perfume of the rose, the Romans celebrated the "Rosales Æscæ" by keeping roses upon all the tombs during the entire season of bearing.

